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DATE: 10/10/2002 RAW SEQUENCE LISTING PATENT APPLICATION: US/10/080,772A TIME: 15:30:10

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| <pre>3 &lt;110&gt; APPLICANT: Yamamoto, Janet K 4 Janelle, Jennifer White</pre> | 06                            |
|---|-------------------------------|
| 5 Torres, Barbara A   | \\\-                          |
| 6 Arai, Maki  | ·                             |
| 7 Tanabe, Taishi  |                               |
| 8 Pu, Ruiyu   |                               |
| 10 <120> TITLE OF INVENTION: Materials and Methods for                          | or Detecting, Preventing, and |
| Treating Retroviral Infection   |                               |
| 12 <130> FILE REFERENCE: UF-267XC1  |                               |
| 14 <140> CURRENT APPLICATION NUMBER: US 10/080,772A                             |                               |
| C> 15 <141> CURRENT FILING DATE: 2002-10-01                                     |                               |
| 17 <150> PRIOR APPLICATION NUMBER: US 60/270,745                                |                               |
| 18 <151> PRIOR FILING DATE: 2001-02-22  | ENTERED                       |
| 20 <160> NUMBER OF SEQ ID NOS: 68   |                               |
| 22 <170> SOFTWARE: PatentIn version 3.1   |                               |
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| 27 <213> ORGANISM: Artificial Sequence  |                               |
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| 30 <223> OTHER INFORMATION: synthetic oligonucleotide                           | e GAGF                        |
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| 58 atggctaatg taactacagg acgagaacct ggtgatatac cagaga                           |                               |
| 60 agatcgatta tttgtgattt acatgacaga agagaacaat atggat                           |                               |
| 62 gatatggcaa ttaccacttt aaaagttttt gcagtagctg gaattt                           |                               |
| 64 tctactgccg cagcagctga acacatgtat gctcagatgg gattag                           |                               |
| 66 ataaaagaaa gtgggggaaa agaagaagga cctccacagg cttatc                           | ectat tcaaacagta 420          |

68 aatggagcac cacagtatgt agcccttgac ccaaaaatgg tgtccatttt tatggaaaaa

480

## RAW SEQUENCE LISTING

DATE: 10/10/2002 PATENT APPLICATION: US/10/080,772A TIME: 15:30:10

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| 74 gagatettag atgaaacact gaaacagatg acage  |                                   |
| 76 gatgggccta gaccgctgcc ctatttcacc gctgc  |                                   |
| 78 caagaacaac aagcggagcc cagatttgca ccagc  |                                   |
| 80 cttgaagcac taggaaagtt ggcagccata aaagc  |                                   |
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| 111 atggctaatg taactacagg acgagaacct ggtg  | atatac cagagaattt agaacagtta 180  |
| 113 agatcgatta tttgtgattt acataacaga agag  |                                   |
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| 117 tctactgccg cagcagctga acacatgtat gctc  |                                   |
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| 129 gatgggccta gaccgctacc ctatttcacc gctg  |                                   |
| 131 caagaacaac aagcggagcc cagatttgca ccag  |                                   |
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| 145 aaaaaaccag gccacctggc caaacaatgt agag  | aagcaa agagatgtaa caactgtgga 1200 |
|  |                                   |
| 147 aaacctggtc acttagctgc taattgctgg caaa  | , , ,                             |
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Output Set: N:\CRF4\10102002\J080772A.raw

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| 166   | agattgatta  | tttgtgattt  | acatgacaga   | agagaacaat   | atggatctag  | taaagaaatt  | 240  |
| 168   | gatatġgcaa  | ttaccacttt  | aaaagttttt   | gcagtagctg   | gaattttaaa  | tatgactgtg  | 300  |
| 170   | tctactgccg  | cagcagctga  | acacatgtat   | gctcagatgg   | gattagatac  | cagaccatct  | 360  |
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| 174   | aatggagcac  | cacagtatgt  | agcccttgac   | ccaaaaatgg   | tgtccatttt  | tatggaaaaa  | 480  |
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| 178   | ttaacttcaa  | ctgatatggc  | tacattaatt   | atgtctgcgc   | ctggctgtgc  | agcagataaa  | 600  |
| 180   | gagatettag  | atgaaacact  | gaaacagata   | acagctgatt   | atgatcgtac  | tcatcctcct  | 660  |
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| 184   | caagaacaac  | aagcggagcc  | cagatttgca   | ccagctagaa   | tgcagtgtag  | agcatggtat  | 780  |
| 186   | cttgaagcac  | taggaaggtt  | ggcagccata   | aaagctaaat   | ctccccgagc  | agtgcaattg  | 840  |
| 188   | aagcaaggag  | ctaaaqaqqa  | ttattcctca   | tttatagata   | gattatttgc  | tcaaatagat  | 900  |
| 190   | caagagcaga  | acacagetga  | agtaaagctg   | tatttaaaac   | aatctttgag  | catagccaat  | 960  |
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| 194   | aaactgagag  | cctqtcaaqa  | ggtaggatca   | ccaggatata   | aaatgcagtt  | gttagcagaa  | 1080   |
| 196   | getettacaa  | gggttcagac  | agttcaaaca   | agaggatcta   | gaccaacgtg  | tttcaattgt  | 1140   |
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| 200   | aaacctggtc  | acttagctgc  | taattgctgg   | caaagaggta   | aaaaaacccc  | gggaaacggg  | 1260   |
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| 210<br>212<br>213<br>215<br>217<br>219<br>221   | <pre>&lt;213&gt; ORGAN &lt;400&gt; SEQUI atggggaatg gtaggggtag atggctaatg agatcgatta gatatggcaa</pre>   | NISM: Feline<br>ENCE: 6<br>gacaggggcg<br>ggagtaagag<br>taactacagg<br>tttgtgattt<br>ttaccacttt   | agactggaag<br>tagaaaattt<br>acgagaacct<br>acataacaga<br>aaaagttttt   | acggccgtta<br>ggagaaggaa<br>ggtgatatac<br>agagaacaat<br>gcagtagctg   | agagatgtag<br>actttaggtg<br>cagagaattt<br>atggatctag<br>gaattttaaa  | ggccataagg<br>agaacagtta<br>taaagaaatt<br>tatgactgtg  | 120<br>180<br>240<br>300   |
| 210<br>212<br>213<br>215<br>217<br>219<br>221<br>223  | <pre>&lt;213&gt; ORGAN &lt;400&gt; SEQUI atggggaatg gtaggggtag atggctaatg agatcgatta gatatggcaa tctactgccq</pre>  | NISM: Feline ENCE: 6 gacaggggcg ggagtaagag taactacagg tttgtgattt ttaccacttt cagcagctga  | agactggaag<br>tagaaaattt<br>acgagaacct<br>acataacaga<br>aaaagttttt<br>acacatgtat   | acggccgtta<br>ggagaaggaa<br>ggtgatatac<br>agagaacaat<br>gcagtagctg<br>gctcagatgg   | agagatgtag<br>actttaggtg<br>cagagaattt<br>atggatctag<br>gaattttaaa<br>gattagatac  | ggccataagg<br>agaacagtta<br>taaagaaatt<br>tatgactgtg<br>cagaccatct  | 120<br>180<br>240<br>300<br>360  |
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| 210<br>212<br>213<br>215<br>217<br>219<br>221<br>223<br>225<br>227<br>229<br>231  | <pre>&lt;213&gt; ORGAN &lt;400&gt; SEQUI atggggaatg gtaggggtag atggctaatg agatcgatta gatatggcaa tctactgccg ataaaagaaa aatggagcac gcaagagagg ttaacttcaa</pre>  | NISM: Feline gacagggggg gagtaagag taactacagg tttgtgattt ttaccacttt cagcagctga gtgggggaaa cacagtatgt ggctagggg   | agactggaag<br>tagaaaattt<br>acgagaacct<br>acataacaga<br>aaaagtttt<br>acacatgtat<br>agaagaagga<br>agcccttgac<br>tgaggaggtc<br>tacattaatt  | acggccgtta<br>ggagaaggaa<br>ggtgatatac<br>agagaacaat<br>gcagtagctg<br>gctcagatgg<br>cctccacagg<br>ccaaaaatgg<br>caactgtggt<br>atgtctgcgc   | agagatgtag<br>actttaggtg<br>cagagaattt<br>atggatctag<br>gaattttaaa<br>gattagatac<br>cttatcctat<br>tgtccatttt<br>tcacagcctt<br>ctggctgtgc  | agaccataagg<br>agaacagtta<br>taaagaaatt<br>tatgactgtg<br>cagaccatct<br>tcaaacagta<br>tatggaaaaa<br>ttctgctaat<br>agcagataaa   | 120<br>180<br>240<br>300<br>360<br>420<br>480<br>540<br>600  |
| 210<br>212<br>213<br>215<br>217<br>219<br>221<br>223<br>225<br>227<br>229<br>231  | <pre>&lt;213&gt; ORGAN &lt;400&gt; SEQUI atggggaatg gtaggggtag atggctaatg agatcgatta gatatggcaa tctactgccg ataaaagaaa aatggagcac gcaagagagg ttaacttcaa</pre>  | NISM: Feline gacagggggg gagtaagag taactacagg tttgtgattt ttaccacttt cagcagctga gtgggggaaa cacagtatgt ggctagggg   | agactggaag<br>tagaaaattt<br>acgagaacct<br>acataacaga<br>aaaagtttt<br>acacatgtat<br>agaagaagga<br>agcccttgac<br>tgaggaggtc<br>tacattaatt  | acggccgtta<br>ggagaaggaa<br>ggtgatatac<br>agagaacaat<br>gcagtagctg<br>gctcagatgg<br>cctccacagg<br>ccaaaaatgg<br>caactgtggt<br>atgtctgcgc   | agagatgtag<br>actttaggtg<br>cagagaattt<br>atggatctag<br>gaattttaaa<br>gattagatac<br>cttatcctat<br>tgtccatttt<br>tcacagcctt<br>ctggctgtgc  | agaccataagg<br>agaacagtta<br>taaagaaatt<br>tatgactgtg<br>cagaccatct<br>tcaaacagta<br>tatggaaaaa<br>ttctgctaat<br>agcagataaa   | 120<br>180<br>240<br>300<br>360<br>420<br>480<br>540<br>600<br>660   |
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| 210<br>212<br>213<br>215<br>217<br>219<br>221<br>223<br>225<br>227<br>229<br>231<br>233<br>235<br>237   | <pre>&lt;213&gt; ORGAN &lt;400&gt; SEQUI atggggaatg gtaggggtag atggctaatg agatcgatta gatatggcaa tctactgccg ataaaagaaa aatggagcac gcaagagagg ttaacttcaa gagatcttag gatgggccta caagaacaac</pre>   | NISM: Feline gacagggggg ggagtaagag taactacagg tttgtgattt ttaccacttt cagcagctga gtgggggaaa cacagtatgt ggctaggagg ctgatatggc atgaaacact gaccgctgcc aagcggagcc                               | agactggaag<br>tagaaaattt<br>acgagaacct<br>acataacaga<br>aaaagtttt<br>acacatgtat<br>agaagaagga<br>agcccttgac<br>tgaggaggtc<br>tacattaatt<br>gaaacagata<br>ctatttcacc<br>cagatttgca  | acggccgtta<br>ggagaaggaa<br>ggtgatatac<br>agagaacaat<br>gcagtagctg<br>gctcagatgg<br>cctccacagg<br>ccaaaaatgg<br>caactgtggt<br>atgtctgcgc<br>acagctgatt<br>gctgcggaga<br>ccagctagaa   | agagatgtag<br>actttaggtg<br>cagagaattt<br>atggatctag<br>gaattttaaa<br>gattagatac<br>cttatcctat<br>tgtccatttt<br>tcacagcctt<br>ctggctgtgc<br>atgatcgtac<br>ttatgggaat<br>tgcagtgtag  | ggccataagg<br>agaacagtta<br>taaagaaatt<br>tatgactgtg<br>cagaccatct<br>tcaaacagta<br>tatggaaaaa<br>ttctgctaat<br>agcagataaa<br>tcatcctcct<br>aggattaact<br>agcatggtat  | 120<br>180<br>240<br>300<br>360<br>420<br>480<br>540<br>600<br>660   |
| 210<br>212<br>213<br>215<br>217<br>219<br>221<br>223<br>225<br>227<br>229<br>231<br>233<br>235<br>237<br>239  | <pre>&lt;213&gt; ORGAN &lt;400&gt; SEQUI atggggaatg gtaggggtag atggctaatg agatcgatta gatatggcaa tctactgccg ataaaagaaa aatggagcac gcaagagagg ttaacttcaa gagatcttag gatgggccta caagaacaac cttgaagcac</pre>  | NISM: Feline gacagggggg ggagtaagag taactacagg tttgtgattt ttaccacttt cagcagctga gtgggggaaa cacagtatgt ggctaggagg ctgatatggc atgaaacact gaccgctgcc aagcggaggctaggaggtt                      | agactggaag<br>tagaaaattt<br>acgagaacct<br>acataacaga<br>aaaagtttt<br>acacatgtat<br>agaagaagga<br>agcccttgac<br>tgaggaggtc<br>tacattaatt<br>gaaacagata<br>ctatttcacc<br>cagatttgca<br>ggcagccata  | acggccgtta<br>ggagaaggaa<br>ggtgatatac<br>agagaacaat<br>gcagtagctg<br>gctcagatgg<br>cctccacagg<br>ccaaaaatgg<br>caactgtggt<br>atgtctgcgc<br>acagctgatt<br>gctgcggaga<br>ccagctagaa<br>aaagctaaat   | agagatgtag<br>actttaggtg<br>cagagaattt<br>atggatctag<br>gaattttaaa<br>gattagatac<br>cttatcctat<br>tgtccatttt<br>tcacagcctt<br>ctggctgtgc<br>atgatcgtac<br>ttatgggaat<br>tgcagtgtag<br>ctccctgagc  | ggccataagg<br>agaacagtta<br>tatgactgtg<br>cagaccatct<br>tcaaacagta<br>tatggaaaaa<br>ttctgctaat<br>agcagataaa<br>tcatcctcct<br>aggattaact<br>agcatggtat<br>agtgcaattg  | 120<br>180<br>240<br>300<br>360<br>420<br>480<br>540<br>600<br>660<br>720<br>780<br>840  |
| 210<br>212<br>213<br>215<br>217<br>219<br>221<br>223<br>225<br>227<br>229<br>231<br>233<br>235<br>237<br>239  | <pre>&lt;213&gt; ORGAN &lt;400&gt; SEQUI atggggaatg gtaggggtag atggctaatg agatcgatta gatatggcaa tctactgccg ataaaagaaa aatggagcac gcaagagagg ttaacttcaa gagatcttag gatgggccta caagaacaac cttgaagcac</pre>  | NISM: Feline gacagggggg ggagtaagag taactacagg tttgtgattt ttaccacttt cagcagctga gtgggggaaa cacagtatgt ggctaggagg ctgatatggc atgaaacact gaccgctgcc aagcggaggctaggaggtt                      | agactggaag<br>tagaaaattt<br>acgagaacct<br>acataacaga<br>aaaagtttt<br>acacatgtat<br>agaagaagga<br>agcccttgac<br>tgaggaggtc<br>tacattaatt<br>gaaacagata<br>ctatttcacc<br>cagatttgca<br>ggcagccata  | acggccgtta<br>ggagaaggaa<br>ggtgatatac<br>agagaacaat<br>gcagtagctg<br>gctcagatgg<br>cctccacagg<br>ccaaaaatgg<br>caactgtggt<br>atgtctgcgc<br>acagctgatt<br>gctgcggaga<br>ccagctagaa<br>aaagctaaat   | agagatgtag<br>actttaggtg<br>cagagaattt<br>atggatctag<br>gaattttaaa<br>gattagatac<br>cttatcctat<br>tgtccatttt<br>tcacagcctt<br>ctggctgtgc<br>atgatcgtac<br>ttatgggaat<br>tgcagtgtag<br>ctccctgagc  | ggccataagg<br>agaacagtta<br>tatgactgtg<br>cagaccatct<br>tcaaacagta<br>tatggaaaaa<br>ttctgctaat<br>agcagataaa<br>tcatcctcct<br>aggattaact<br>agcatggtat<br>agtgcaattg  | 120<br>180<br>240<br>300<br>360<br>420<br>480<br>540<br>600<br>660<br>720<br>780<br>840<br>900                                 |
| 210<br>212<br>213<br>215<br>217<br>219<br>221<br>223<br>225<br>227<br>229<br>231<br>233<br>235<br>237<br>239<br>241<br>243                                    | <pre>&lt;213&gt; ORGAN &lt;400&gt; SEQUI atggggaatg gtaggggtag atggctaatg agatcgatta gatatggcaa tctactgccg ataaaagaaa aatggagcac gcaagagagg ttaacttcaa gagatcttag gatggccta caagaacaac cttgaagcac aagcaaggag caagaggag</pre>                                  | NISM: Feline gacagggggggggggggggggggggggggggggggggg   | agactggaag<br>tagaaaatt<br>acgagaacct<br>acataacaga<br>aaaagtttt<br>acacatgtat<br>agaagaagga<br>agcccttgac<br>tgaggaggtc<br>tacattaatt<br>gaaacagata<br>ctatttcacc<br>cagatttgca<br>ggcagccata<br>ttattcctca<br>agtaaagctg   | acggccgtta<br>ggagaaggaa<br>ggtgatatac<br>agagaacaat<br>gcagtagctg<br>gctcagatgg<br>cctccacagg<br>ccaaaaatgg<br>caactgtggt<br>atgtctgcgc<br>acagctgatt<br>gctgcggaga<br>ccagctagaa<br>aaagctaaat<br>tttatagata<br>tatttaaaac                             | agagatgtag<br>actttaggtg<br>cagagaattt<br>atggatctag<br>gaattttaaa<br>gattagatac<br>cttatcctat<br>tgtccatttt<br>tcacagcctt<br>ctggctgtgc<br>atgatcgtac<br>ttatgggaat<br>tgcagtgtag<br>ctccctgagc<br>gattatttgc<br>aatctttgag  | agaccataagg<br>agaacagtta<br>tatgactgtg<br>cagaccatct<br>tcaaacagta<br>tatggaaaaa<br>ttctgctaat<br>agcagataaa<br>tcatcctcct<br>aggattaact<br>agcatggtat<br>agtgcaattg<br>tcaaatagat<br>catagccaat   | 120<br>180<br>240<br>300<br>360<br>420<br>480<br>540<br>660<br>720<br>780<br>840<br>900<br>960                                 |
| 210<br>212<br>213<br>215<br>217<br>219<br>221<br>223<br>225<br>227<br>229<br>231<br>233<br>235<br>237<br>239<br>241<br>243                                    | <pre>&lt;213&gt; ORGAN &lt;400&gt; SEQUI atggggaatg gtaggggtag atggctaatg agatcgatta gatatggcaa tctactgccg ataaaagaaa aatggagcac gcaagagagg ttaacttcaa gagatcttag gatggccta caagaacaac cttgaagcac aagcaaggag caagaggag</pre>                                  | NISM: Feline gacagggggggggggggggggggggggggggggggggg   | agactggaag<br>tagaaaatt<br>acgagaacct<br>acataacaga<br>aaaagtttt<br>acacatgtat<br>agaagaagga<br>agcccttgac<br>tgaggaggtc<br>tacattaatt<br>gaaacagata<br>ctatttcacc<br>cagatttgca<br>ggcagccata<br>ttattcctca<br>agtaaagctg   | acggccgtta<br>ggagaaggaa<br>ggtgatatac<br>agagaacaat<br>gcagtagctg<br>gctcagatgg<br>cctccacagg<br>ccaaaaatgg<br>caactgtggt<br>atgtctgcgc<br>acagctgatt<br>gctgcggaga<br>ccagctagaa<br>aaagctaaat<br>tttatagata<br>tatttaaaac                             | agagatgtag<br>actttaggtg<br>cagagaattt<br>atggatctag<br>gaattttaaa<br>gattagatac<br>cttatcctat<br>tgtccatttt<br>tcacagcctt<br>ctggctgtgc<br>atgatcgtac<br>ttatgggaat<br>tgcagtgtag<br>ctccctgagc<br>gattatttgc<br>aatctttgag  | agaccataagg<br>agaacagtta<br>tatgactgtg<br>cagaccatct<br>tcaaacagta<br>tatggaaaaa<br>ttctgctaat<br>agcagataaa<br>tcatcctcct<br>aggattaact<br>agcatggtat<br>agtgcaattg<br>tcaaatagat<br>catagccaat   | 120<br>180<br>240<br>300<br>360<br>420<br>480<br>540<br>660<br>720<br>780<br>840<br>900<br>960<br>1020                         |
| 210<br>212<br>213<br>215<br>217<br>219<br>221<br>223<br>225<br>227<br>229<br>231<br>233<br>235<br>237<br>239<br>241<br>243<br>245                             | <pre>&lt;213&gt; ORGAN &lt;400&gt; SEQUI atggggaatg gtaggggtag atggctaatg agatcgatta gatatggcaa tctactgccg ataaaagaaa aatggagcac gcaagagagg ttaacttcaa gagatcttag gatggccta caagaacaac cttgaagcac aagcaagaga caagagcaga gctaacccag</pre>                      | NISM: Feline gacagggggggggggggggggggggggggggggggggg   | agactggaag<br>tagaaaattt<br>acgagaacct<br>acataacaga<br>aaaagtttt<br>acacatgtat<br>agaagaagga<br>agcccttgac<br>tgaggaggtc<br>tacattaatt<br>gaaacagata<br>ctattcacc<br>cagatttgca<br>ggcagccata<br>ttattcctca<br>agtaaagctg<br>ggcaatgagt   | acggccgtta<br>ggagaaggaa<br>ggtgatatac<br>agagaacaat<br>gcagtagctg<br>gctcagatgg<br>cctccacagg<br>ccaaaaatgg<br>caactgtggt<br>atgtctgcgc<br>acagctgatt<br>gctgcggaga<br>ccagctagaa<br>acagctagaa<br>tttatagata<br>tatttaaaac                             | agagatgtag<br>actttaggtg<br>cagagaattt<br>atggatctag<br>gaattttaaa<br>gattagatac<br>cttatcctat<br>tgtccatttt<br>tcacagcctt<br>ctggctgtgc<br>atgatcgtac<br>ttatgggaat<br>tgcagtgtag<br>ctccctgagc<br>gattatttgc<br>aatctttgag<br>cagagagtac  | agaccataagg<br>agaacagtta<br>taaagaaatt<br>tatgactgtg<br>cagaccatct<br>tcaaacagta<br>tatggaaaaa<br>ttctgctaat<br>agcagataaa<br>tcatcctcct<br>aggattaact<br>agcatggtat<br>agtgcaattg<br>tcaaatagat<br>catagccaat<br>tttagaggaa   | 120<br>180<br>240<br>300<br>360<br>420<br>480<br>540<br>600<br>720<br>780<br>840<br>900<br>960<br>1020<br>1080                 |
| 210<br>212<br>213<br>215<br>217<br>219<br>221<br>223<br>225<br>227<br>229<br>231<br>233<br>235<br>237<br>239<br>241<br>243<br>245<br>247                      | <213> ORGAN <400> SEQUI atggggaatg gtaggggtag atggctaatg agatcgatta gatatggcaa tctactgccg ataaaagaaa aatggagcac gcaagagagg ttaacttcaa gagatcttag gatggccta caagaacaac cttgaagcac aagcaagagag caagagcaga gctaacccag aaactgagag                                 | NISM: Feline gacagggggg gagtaagag taactacagg tttgtgattt ttaccacttt cagcagctga gtgggggaaa cacagtatgt ggctaggagg ctgatatggc atgaaacact gaccgctgc aagcagggtt ctaaagaggt atgtaaaag cctgtcaaga | agactggaag<br>tagaaaattt<br>acgagaacct<br>acataacaga<br>aaaagtttt<br>acacatgtat<br>agaagaagga<br>agcccttgac<br>tgaggaggtc<br>tacattaatt<br>gaaacagata<br>ctattcacc<br>cagatttgca<br>ggcagccata<br>ttattcctca<br>agtaaagctg<br>ggcaatgagt<br>ggcagtcat  | acggccgtta<br>ggagaaggaa<br>ggtgatatac<br>agagaacaat<br>gcagtagctg<br>gctcagatgg<br>cctccacagg<br>ccaaaaatgg<br>caactgtggt<br>atgtctgcgc<br>acagctgatt<br>gctgcggaga<br>ccagctagaa<br>aaagctaaat<br>tttatagata<br>tatttaaaac<br>catcttaaac<br>ccaggatata | agagatgtag<br>actttaggtg<br>cagagaattt<br>atggatctag<br>gaattttaaa<br>gattagatac<br>cttatcctat<br>tgtccatttt<br>tcacagcctt<br>ctggctgtgc<br>atgatcgtac<br>ttatgggaat<br>tgcagtgtag<br>ctccctgagc<br>gattatttgc<br>aatctttgag<br>cagagagtac<br>aaatgcagtt  | agaccataagg<br>agaacagtta<br>taaagaaatt<br>tatgactgtg<br>cagaccatct<br>tcaaacagta<br>tatggaaaaa<br>ttctgctaat<br>agcagataaa<br>tcatcctcct<br>aggattaact<br>agcatggtat<br>agtgcaattg<br>tcaaatagat<br>catagccaat<br>tttagaggaa<br>gttagcagaa   | 120<br>180<br>240<br>300<br>360<br>420<br>480<br>540<br>600<br>720<br>780<br>840<br>900<br>960<br>1020<br>1080<br>1140         |
| 210<br>212<br>213<br>215<br>217<br>219<br>221<br>223<br>225<br>227<br>229<br>231<br>233<br>235<br>237<br>239<br>241<br>243<br>245<br>247<br>249               | <213> ORGAN <400> SEQUI atggggaatg gtaggggtag atggctaatg agatcgatta gatatggcaa tctactgccg ataaaagaaa aatggagcac gcaagagagg ttaacttcaa gagatcttag gatggccta ccaagaacaac cttgaagcac aagcaaggag caagagcaga gctaacccag aaactgagag gctatacaa gctttacaa             | NISM: Feline Park Park Park Park Park Park Park Park  | agactggaag<br>tagaaaattt<br>acgagaacct<br>acataacaga<br>aaaagtttt<br>acacatgtat<br>agaagaagga<br>agccettgac<br>tgaggaggtc<br>tacattaatt<br>gaaacagata<br>ctattcacc<br>cagatttgca<br>ggcagccata<br>ttattcctca<br>agtaaagctg<br>ggcaatgagt<br>ggtaggatca<br>agttcaaca                              | acggccgtta ggagaaggaa ggtgatatac agagaacaat gcagtagctg gctcagatgg cctccacagg ccaaaaatgg caactgtggt atgtctgcgc acagctgatt gctgcggaga ccagctagaa aaagctaaaat tttatagata tatttaaaac catcttaaac ccaggatata agaggatcta  | agagatgtag<br>actttaggtg<br>cagagaattt<br>atggatctag<br>gaattttaaa<br>gattagatac<br>cttatcctat<br>tgtccatttt<br>tcacagcctt<br>ctggctgtgc<br>atgatcgtac<br>ttatgggaat<br>tgcagtgtag<br>ctccctgagc<br>gattatttgc<br>aatctttgag<br>cagagagtac<br>aaatgcagtt<br>gaccaacgtg                            | agaccataagg<br>agaacagtta<br>taaagaaatt<br>tatgactgtg<br>cagaccatct<br>tcaaacagta<br>tatggaaaaa<br>ttctgctaat<br>agcagataaa<br>tcatcctcct<br>aggattaact<br>agcatggtat<br>agtgcaattg<br>tcaaatagat<br>catagccaat<br>tttagaggaa<br>gttagcagaa<br>ttttaattgt                             | 120<br>180<br>240<br>300<br>360<br>420<br>480<br>540<br>600<br>720<br>780<br>840<br>900<br>960<br>1020<br>1080                 |
| 210<br>212<br>213<br>215<br>217<br>219<br>221<br>223<br>225<br>227<br>229<br>231<br>233<br>235<br>237<br>239<br>241<br>243<br>245<br>247<br>249<br>251<br>253 | <213> ORGAN <400> SEQUI atggggaatg gtaggggtag atggctaatg agatcgatta gatatggcaa tctactgccg ataaaagaaa aatggagcac gcaagagagg ttaacttcaa gagatcttag gatggccta caagaacaac cttgaagcac aagcaaggag caagagcaga gctaacccag aaactgagag gctcttacaa aaaaaaccag aaacctggtc | NISM: Feline Pacaggggggggggggggggggggggggggggggggggg  | agactggaag<br>tagaaaattt<br>acgagaacct<br>acataacaga<br>aaaagtttt<br>acacatgtat<br>agaagaagga<br>agcccttgac<br>tgaggaggtc<br>tacattaatt<br>gaaacagata<br>ctattcacc<br>cagatttgca<br>ggcagccata<br>ttattcctca<br>agtaaagctg<br>ggcaatgagt<br>ggtaggatca<br>agttcaaaca<br>caaacaatgt<br>taattgctgg | acggccgtta ggagaaggaa ggtgatatac agagaacaat gcagtagctg gctcagatgg cctccacagg ccaaaaatgg caactgtggt atgtctgcgc acagctgatt gctgcggaga ccagctagaa atattaaaac tttatagata tatttaaaac catcttaaac ccaggatata agaggatcta agagaagcaa caaagaggaa                   | agagatgtag<br>actttaggtg<br>cagagaattt<br>atggatctag<br>gaattttaaa<br>gattagatac<br>cttatcctat<br>tgtccatttt<br>tcacagcctt<br>ctggctgtgc<br>atgatcgtac<br>ttatgggaat<br>tgcagtgtag<br>ctccctgagc<br>gattatttgc<br>aatctttgag<br>cagagagtac<br>aaatgcagtt<br>gaccaacgtg<br>agagatgtaa<br>aaaaaaccc | agaccataagg<br>agaacagtta<br>taaagaaatt<br>tatgactgtg<br>cagaccatct<br>tcaaacagta<br>tatggaaaaa<br>ttctgctaat<br>agcagataaa<br>tcatcctcct<br>aggattaact<br>agcatggtat<br>agtgcaattg<br>tcaaatagat<br>catagccaat<br>tttagaggaa<br>gttagcagaa<br>ttttaattgt<br>caactgtgga<br>gggaaacggg | 120<br>180<br>240<br>300<br>360<br>420<br>480<br>540<br>600<br>720<br>780<br>840<br>900<br>960<br>1020<br>1080<br>1140         |
| 210<br>212<br>213<br>215<br>217<br>219<br>221<br>223<br>225<br>227<br>229<br>231<br>233<br>235<br>237<br>239<br>241<br>243<br>245<br>247<br>249<br>251<br>253 | <213> ORGAN <400> SEQUI atggggaatg gtaggggtag atggctaatg agatcgatta gatatggcaa tctactgccg ataaaagaaa aatggagcac gcaagagagg ttaacttcaa gagatcttag gatggccta caagaacaac cttgaagcac aagcaaggag caagagcaga gctaacccag aaactgagag gctcttacaa aaaaaaccag aaacctggtc | NISM: Feline Pacaggggggggggggggggggggggggggggggggggg  | agactggaag<br>tagaaaattt<br>acgagaacct<br>acataacaga<br>aaaagtttt<br>acacatgtat<br>agaagaagga<br>agcccttgac<br>tgaggaggtc<br>tacattaatt<br>gaaacagata<br>ctattcacc<br>cagatttgca<br>ggcagccata<br>ttattcctca<br>agtaaagctg<br>ggcaatgagt<br>ggtaggatca<br>agttcaaaca<br>caaacaatgt<br>taattgctgg | acggccgtta ggagaaggaa ggtgatatac agagaacaat gcagtagctg gctcagatgg cctccacagg ccaaaaatgg caactgtggt atgtctgcgc acagctgatt gctgcggaga ccagctagaa aaagctaaaat tttatagata tatttaaaac catcttaaac ccaggatata agaggatcta  | agagatgtag<br>actttaggtg<br>cagagaattt<br>atggatctag<br>gaattttaaa<br>gattagatac<br>cttatcctat<br>tgtccatttt<br>tcacagcctt<br>ctggctgtgc<br>atgatcgtac<br>ttatgggaat<br>tgcagtgtag<br>ctccctgagc<br>gattatttgc<br>aatctttgag<br>cagagagtac<br>aaatgcagtt<br>gaccaacgtg<br>agagatgtaa<br>aaaaaaccc | agaccataagg<br>agaacagtta<br>taaagaaatt<br>tatgactgtg<br>cagaccatct<br>tcaaacagta<br>tatggaaaaa<br>ttctgctaat<br>agcagataaa<br>tcatcctcct<br>aggattaact<br>agcatggtat<br>agtgcaattg<br>tcaaatagat<br>catagccaat<br>tttagaggaa<br>gttagcagaa<br>ttttaattgt<br>caactgtgga<br>gggaaacggg | 120<br>180<br>240<br>300<br>360<br>420<br>480<br>540<br>600<br>720<br>780<br>840<br>900<br>960<br>1020<br>1080<br>1140<br>1200 |

RAW SEQUENCE LISTING

DATE: 10/10/2002 PATENT APPLICATION: US/10/080,772A TIME: 15:30:10

Input Set : N:\jumbos\huge\10080772A.RAW.txt Output Set: N:\CRF4\10102002\J080772A.raw

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|      | ccaatggaag acaggaaatt                           | gttagattta   | taa         |            |            | 1353 |  |
|      | <210> SEQ ID NO: 7                              |              |             |            |            |      |  |
|      | <211> LENGTH: 1353                              |              |             |            |            |      |  |
|      | <212> TYPE: DNA                                 |              |             |            |            |      |  |
|      | 3 <213> ORGANISM: Feline immunodeficiency virus |              |             |            |            |      |  |
| 265  | <400> SEQUENCE: 7                               |              |             |            |            | 60   |  |
| 266  | atggggaatg gacaggggcg                           | agactggaag   | acggccatta  | agagatgtag | taatgttgct | 60   |  |
|      | gtaggagtag agagtaagag                           |              |             |            |            | 120  |  |
| 270  | atggctaatg taactacagg                           | acgagaacct   | ggtgatatac  | cagagaattt | agaacagtta | 180  |  |
|      | agatcgatta tttgtgattt                           |              |             |            |            | 240  |  |
|      | gatatggcaa ttaccacttt                           |              |             |            |            | 300  |  |
| 276  | tctactgccg cagcagctga                           | acacatgtat   | gctcagatgg  | gattagatac | cagaccatct | 360  |  |
| 278  | ataaaagaaa gtgggggaaa                           | agaagaagga   | cctccacagg  | cttatcctat | tcaaacagta | 420  |  |
| 280  | aatggagcac cacagtatgt                           | agcccttgac   | ccaaaaatgg  | tgtccatttt | tatggaaaaa | 480  |  |
| 282  | gcaagagagg ggctaggagg                           | tgaggaggtc   | caactgtggt  | tcacagcctt | ttctgctaat | 540  |  |
| 284  | ttaacttcaa ccgatatggc                           | tacattaatt   | atgtctgcgc  | ctggctgtgc | agcagataaa | 600  |  |
| 286  | gagatettag atgaaacaet                           | gaaacagatg   | acagctgagt  | atgatcgtac | tcatcctcct | 660  |  |
| 288  | gatgggccta gaccgctgcc                           | ctatttcacc   | gctgcggaga  | ttatgggaat | aggattaact | 720  |  |
| 290  | caagaacaac aggcggagcc                           | cagatttgca   | ccagctagaa  | tgcagtgtag | agcatggtat | 780  |  |
| 292  | cttgaagcac taggaaagtt                           | ggcagccata   | aaagctaaat  | ctccccgagc | agtgcaatta | 840  |  |
| 294  | aagcaaggag ctaaagagga                           | ttattcctca   | tttatagata  | gattatttgc | tcaaatagat | 900  |  |
| 296  | caagagcaga acacagctga                           | agtaaagctg   | tatttaaaac  | aatctttgag | catagccaat | 960  |  |
| 298  | gctaacccag attgtaaaag                           | ggcaatgagt   | catcttaaac  | cagagagtac | tttagaggaa | 1020 |  |
| 300  | aaactgagag cctgtcaaga                           | ggtaggatca   | ccaggatata  | aaatgcagtt | gttagcagaa | 1080 |  |
| 302  | gctcttacaa gggttcagac                           | agttcaaaca   | agaggatcta  | gaccaacgtg | tttcaattgt | 1140 |  |
| 304  | aaaaaaccag gccacctggc                           | caaacaatqt   | agagaagcaa  | agagatgtaa | caactgtgga | 1200 |  |
|      | aaacctggtc acttagctgc                           |              |             |            |            | 1260 |  |
|      | aagatggggc cagctgcagc                           |              |             |            |            | 1320 |  |
|      | ccaatggaag acaggaaatt                           |              |             | 33 3       | -          | 1353 |  |
|      | <210> SEQ ID NO: 8                              | <i>y y</i>   |             |            |            |      |  |
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|      | <212> TYPE: DNA                                 |              |             |            |            |      |  |
|      | <213> ORGANISM: Feline                          | e immunodefi | ciency viru | 15         |            |      |  |
|      | <400> SEQUENCE: 8                               |              | -           |            |            |      |  |
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|      | gtaggggtag ggagtaagag                           |              |             |            |            | 120  |  |
| 323  | atggctaatg taactacagg                           | acgagaacct   | ggtgatatac  | cagagaattt | agaacagtta | 180  |  |
| 325  | agatcgatta tttgtgattt                           | acatgacaga   | agagaacaat  | atggatctag | taaagaaatt | 240  |  |
|      | qatatqqcaa ttaccacttt                           |              |             |            |            | 300  |  |
|      | tctactgccg cagcagctga                           |              |             |            |            | 360  |  |
| 323  | ataaaagaaa gtgggggaaa                           | agaagaagga   | cctccacagg  | cttatectat | tcaaacagta | 420  |  |
| 333  | aatggagcac cacagtatgt                           | agcccttgac   | ccaaaaatgg  | tatccatttt | tatggaaaaa | 480  |  |
| 335  | gcaagagagg ggctaggagg                           | tgaggaggtc   | caactgtggt  | tcacagcctt | ttctgctaat | 540  |  |
| 337  | ttaacttcaa ctgatatggc                           | tacattaatt   | atatetacae  | ctaactatac | agcagataaa | 600  |  |
| 220  | gagatettag atgaaacact                           | raaacarate   | acadetdadt  | atgategtee | tratretect | 660  |  |
| 211  | gatgggccta gaccgctgcc                           | ctatttcacc   | actacaaaaa  | ttataaaaat | aggattaact | 720  |  |
| 2/12 | caagaacaac aageggagee                           | cagatttaca   | ccarctara   | tacaatataa | agratagtat | 780  |  |
| 245  | cttgaagcac taggaaagtt                           | gacagacata   | aaagctaaat  | ctccccaac  | agtgcaattg | 840  |  |
| 343  | aagcaaggag ctaaagagga                           | ttattootos   | tttatamata  | gattatttgg | traaatarat | 900  |  |
| 34/  | aaycaayyay ccaaayayya                           | caciccica    | cccacagaca  | gaccaccege | countryat  | 200  |  |
|      |   |              |             |            |            |      |  |

RAW SEQUENCE LISTING

DATE: 10/10/2002 TIME: 15:30:10

PATENT APPLICATION: US/10/080,772A T

Input Set : N:\jumbos\huge\10080772A.RAW.txt
Output Set: N:\CRF4\10102002\J080772A.raw

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| 349 | caagagcaga  | acacagctga   | agtaaagctg   | tatttaaaac  | aacccccyay              | tttagecaac   | 1020 |
| 351 | gctaacccag  | attgtaaaag   | ggcaatgagt   | Catcttaaac  | cagagagtac              | attagaggaa   | 1080 |
| 353 | aaactgagag  | cctgtcaaga   | ggtaggatca   | ccaggatata  | aaatgcagtt              | tttagcagaa   | 1140 |
| 355 | gctcttacaa  | gggttcagac   | agttcaaaca   | agaggateta  | gaccaacgig              | constatage   | 1200 |
| 357 | aaaaaccag   | gccacctggc   | caaacaatgt   | agagaagcaa  | agagatgtaa              | caactytyga   | 1260 |
| 359 | aaacctggtc  | acttagctgc   | taattgctgg   | caaagaggta  | aaaaaacccc              | gggaaacggg   | 1320 |
| 361 | aagatggggc  | cagctgcagc   | cccggtaaac   | caagtgcagc  | aaatggtgcc              | aletgeacet   | 1353 |
|     |             | acaggaaatt   | gttagattta   | taa         |                         |              | 1333 |
|     | <210> SEQ 3 |              |              |             | •                       |              |      |
|     | <211> LENGT |              |              |             |                         |              |      |
| 368 | <212> TYPE: | : DNA        |              |             |                         |              |      |
|     |             | NISM: Feline | e immunodefi | ciency viru | 1S                      |              |      |
| 371 | <400> SEQUI | ENCE: 9      |              |             |                         | ++           | 60   |
| 372 | atggggaatg  | gacaggggcg   | agactggaag   | acggccgtta  | agagatgtag              | taatgttgct   | 120  |
| 374 | gtaggggtag  | ggagtaagag   | tagaaagttt   | ggagaaggaa  | actttaggtg              | ggccataagg   | 180  |
| 376 | atggctaatg  | taactacagg   | acgagaacct   | ggtgatatac  | cagagaattt              | agaacagtta   | 240  |
| 378 | agatcgatta  | tttgtgattt   | acatgacaga   | agagaacaat  | atggatctag              | taaagaaatt   |      |
| 380 | gatatgggaa  | ttaccacttt   | aaaagttttt   | gcagtagctg  | gaattttaaa              | tatgactgtg   | 300  |
| 382 | tctactgccg  | cagcagetga   | acacatgtat   | gctcagatgg  | gattagatac              | cagaccatct   | 360  |
| 381 | ataaaaaaaa  | ataagggaaa   | agaagaagga   | cctccacagg  | cttatcctat              | tcaaacagta   | 420  |
| 386 | aatggaggag  | cacagtatgt   | agcccttgac   | ccaaaaatgg  | tgtccatttt              | tatggaaaaa   | 480  |
| 388 | псаадададд  | ggctaggagg   | tgaggaggtc   | caactgtggt  | tcacagcctt              | ttctgctaat   | 540  |
| 390 | ttaacttcaa  | ctgatatggc   | tacattaatt   | atgtctgcgc  | ctggctgtgc              | agcagataaa   | 600  |
| 392 | gagatettag  | atgaaacact   | gaaacagatg   | acagctgagt  | atgatcgtac              | tcatcctcct   | 660  |
| 394 | gatgggggta  | gaccgctgcc   | ctatttcacc   | gctgcggaga  | ttatgggaat              | aggattaact   | 720  |
| 396 | caagaacaac  | aagcggagcc   | cagatttgca   | ccagctagaa  | tgcagtgtag              | agcatggtat   | 780  |
| 398 | cttgaagcac  | taggaaagtt   | ggcagccata   | aaagctaaat  | ctccccgagc              | agtgcaattg   | 840  |
| 400 | аапсааппап  | ctaaagagaa   | ttattcctca   | tttatagata  | gattatttgc              | tcaaatagat   | 900  |
| 402 | саададсада  | acacagetga   | agtaaagctg   | tatttaaaac  | aatctttgag              | catagccaat   | 960  |
| 101 | actaacccaa  | attotaaaag   | ggcaatgagt   | catcttaaac  | cagagagtac              | tttagaggaa   | 1020 |
| 406 | aaactgagag  | cctgtcaaga   | ggtaggatca   | ccaggatata  | aaatgcagtt              | gttagcagaa   | 1080 |
| 408 | getettacaa  | gggttcagac   | agttcaaaca   | agaggatcta  | gatcaacgtg              | tttcaattgt   | 1140 |
| 410 | aaaaaaccaq  | accacctage   | caaacaatgt   | agagaagcaa  | agagatgtaa              | caactgtgga   | 1200 |
| 412 | aaacctggtc  | acttagctgc   | taattqctqq   | caaagaggta  | aaaaaacccc              | gggaaacggg   | 1260 |
| 414 | aagatggggc  | cagctgcagc   | cccggtaaac   | caagtgcagc  | agatggtgcc              | atctgcacct   | 1320 |
| 416 | ccaatggaag  | acaggaaatt   | gttagattta   | taa         |                         |              | 1353 |
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|     | <211> LENG  |              |              |             |                         |              |      |
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| 422 | <213> ORGA  | NISM: Felin  | e immunodef  | iciency vir | us                      |              |      |
| 424 | <400> SEOU  | ENCE: 10     |              |             |                         |              |      |
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| 127 | atagggtag   | ggagtaagag   | tagaaagttt   | qqaqaaqqaa  | . actttaggtg            | ggccataagg   | 120  |
| 429 | atggctaatg  | taactacagg   | acgagaacct   | ggtgatatac  | : cagagaattt            | agaacagtta   | 180  |
| 131 | agategatta  | tttgtgattt   | acatgacaga   | agagaacaat  | . atggatctag            | taaayaaatt   | 240  |
| 133 | gatatgggaa  | ttaccacttt   | aaaaqttttt   | gcagtagctg  | <sub> </sub> gaattttaaa | tatgactgtg   | 300  |
| 135 | totactocco  | cagcagetga   | acacatgtat   | gctcagatgg  | <sub>l</sub> gattagatac | cagaccatet   | 360  |
| 137 | ataaaagaaa  | ataggggaaa   | agaagaagga   | cctccacagg  | cttatectat              | tcaaacagta   | 420  |
| 439 | aatggagcac  | cacagtatgt   | agcccttgac   | ccaaaaatgg  | tgtccatttt              | . tatggaaaaa | 480  |
|     |             |              |              |             |                         |              |      |

RAW SEQUENCE LISTING ERROR SUMMARY PATENT APPLICATION: US/10/080,772A

DATE: 10/10/2002 TIME: 15:30:11

Input Set : N:\jumbos\huge\10080772A.RAW.txt
Output Set: N:\CRF4\10102002\J080772A.raw

## Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the  $\langle 220 \rangle$  to  $\langle 223 \rangle$  fields of each sequence which presents at least one n or Xaa.

Seq#:47; N Pos. 612
Seq#:55; N Pos. 1,2,4,7,14,16,22,23,28,40,43,46,53,54,55,57,58,61,62,63,64
Seq#:55; N Pos. 67,73,75,76,79,80,82,83,95,97,104,111,112,121,126,128,129
Seq#:55; N Pos. 131,137,140,143,146,158,160,164,170,173,182,185,186,194,197
Seq#:55; N Pos. 200,203,208,211,214,217,220,221,223,229,232,235,238,241,244
Seq#:55; N Pos. 248,253,254,256,262,268,277,281,283,286,289,292,295,298,303
Seq#:55; N Pos. 307,310,313,314,316,319
Seq#:57; N Pos. 318

## Invalid Line Length:

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:1; Line(s) 10